Commonwealth of Kentucky

Natural Resources and Environmental Protection Cabinet
Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601
(502) 573-3382

Title V
AIR QUALITY PERMIT
Issued under 401 KAR 52:020

Permittee Name:	**Westlake PVC Corporation**
Mailing Address:	**P.O. Box 1027** **Calvert City, Kentucky 42029**
Source Name:	**Westlake PVC Corporation**
Mailing Address:	**P.O. Box 1027** **Calvert City, Kentucky 42029**
Source Location:	**Johnson Riley Road, Calvert City, Kentucky 42029**
Permit Number:	**V-99-026 (Revision 2)**
Log Number:	**F851, 54216, 55030**
Review Type:	**NSR, PSD, Synthetic Minor, Title V, NESHAP**
Source ID #:	**21-157-00040**
SIC Code:	**2821**
Regional Office:	**Paducah Regional Office** **4500 Clarks River Rd.** **Paducah, KY 42003-0823** **(270) 898-8468**
County:	**Marshall**
Application Complete Date:	**November 29, 1999**
Issuance Date:	**March 31, 2000**
Revision Date:	**June 12, 2003**
Expiration Date:	**March 31, 2005**

John S. Lyons, Director

Division for Air Quality

Revised 12/09/02

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Rev #	Permit type	Log #	Complete Date	Issuance Date	Summary of Action
----	Initial Issuance	F851	11/29/99	5/11/00	Permit Issued
1	Significant revision	54216	5/17/02	01/10/03	PSD Review to use Ethylene Oil as primary fuel
2	Significant revision	55030	1/28/03	06/12/03	Significant revision for revising the synthetic minor conditions
2	Administrative revision	55030	1/28/03	06/12/03	Correct multiple typos and formatting errors. Include comments.

SECTION A - PERMIT AUTHORIZATION

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the operation of the equipment described herein in accordance with the terms and conditions of this permit. This permit has been issued under the provisions of Kentucky Revised Statutes Chapter 224 and regulations promulgated pursuant thereto.

The permittee shall not construct, reconstruct, or modify any affected facilities without first having submitted a complete application and receiving a permit for the planned activity from the permitting authority, except as provided in this permit or in 401 KAR 52:020, Title V Permits.

Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by this Cabinet or any other federal, state, or local agency

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

INDEX OF EMISSION POINTS LISTED IN SECTION B

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

A. BOILERS:

15 (15) **Boiler #1**

Type:	Zurn 0-Tube with COEN DAF low NOx burners and flue gas recirculation
Capacity:	98.5 mmBTU/hr
Primary fuels:	Natural Gas, Westlake CA&O (Chlor-Alkali and Olefins) process gas
Secondary fuel:	Fuel Oil #2
Construction Date:	1992
Emissions Source:	Fuel combustion (low NO_x burners)

22 (22) **Boiler #2**

Type:	Zurn 0-Tube with COEN DAF low NOx burners and flue gas recirculation; dual-fire jets.
Capacity:	98.5 mmBTU/hr
Primary fuels:	Natural Gas, Westlake CA&O process gas, Ethylene Process Oil
Secondary fuel:	Fuel Oil #2
Construction Date:	1992
Emissions Source:	Fuel combustion (low NO_x burners)

52 (52) **Boiler #3**

Type:	Babcock & Wilcox Type FM with COEN DAF low NOx burners and flue gas recirculation
Capacity:	74.95 mmBTU/hr
Primary fuels:	Natural Gas, Westlake CA&O process gas
Secondary fuel:	Fuel Oil #2
Projected Construction Date:	4^{th} Quarter of 2002
Emissions Source:	Fuel combustion (no controls)

APPLICABLE REGULATIONS:

401 KAR 51:017, Prevention of Significant Deterioration, applies to Boilers #1 and #2.

401 KAR 59:015, New indirect heat exchangers, applies to Boilers #1, #2, and #3.

401 KAR 60:005, which incorporates by reference federal regulation 40 CFR 60 Subpart Dc, Standards of performance for small industrial-commercial-institutional steam generating units, applies to Boilers #1, #2, and #3.

1. Operating Limitations:

For Boiler #1:

a. Use of natural gas/process gas as fuel shall not exceed 100,576 ft^3/hr.

b. Use of ethylene fuel oil or fuel oil #2 as fuel shall not exceed 503 gallons/hr and 433,000 gallons/year.

c. Ethylene fuel oil can be burned as a primary fuel within Boiler #1 provided Boiler #2 is not in operation and firing guns from Boiler #2 are transferred to Boiler #1.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

A. BOILERS: (continued)

For Boiler #2:

a. Use of natural gas/process gas as fuel shall not exceed 100,576 ft^3/hr if used as the sole fuel.
b. During periods that both gas and oil are burned simultaneously within Boiler #2, use of Ethylene process oil or fuel oil #2 as fuel shall not exceed 503 gallons/hr and 4,411,000 gallons/year.

For Boiler #3:

Use of fuel oil #2 as fuel shall not exceed 500 gallons/hr and 216,000 gallons/year [Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].

Compliance Demonstration Method:

For each boiler, the permittee shall monitor and maintain records of the following information:

a. Continuous (1-hour average) records of the fuel consumption at each boiler.
b. Monthly consumption records for each type of fuel used at each boiler. At beginning of each month, the permittee shall create and maintain a record of the fuel consumption during the previous 12 months for each boiler.
c. Report to the Division within 7 days when Boiler #2 is down and the firing guns are transferred to Boiler #1 and will burn ethylene fuel oil as a primary fuel.

2. Emission Limitations:

For Boilers #1 and #2:

a. No owner or operator shall cause to be discharged into the atmosphere any gases which contain particulate matter in excess of 0.277 lb/mmBTU [401 KAR 59:015, Section 4 (1)].
b. No owner or operator shall cause to be discharged into the atmosphere any gases which contain sulfur dioxide in excess of 0.882 lb/mmBTU [401 KAR 59:015, Section 5].
c. No owner or operator shall cause to be discharged into the atmosphere any gases which contain nitrogen oxides expressed as nitrogen dioxide in excess of:
   i. 0.20 lb/mmBTU derived from gaseous fuel [401 KAR 59:015, Section 6 (1)(a)].
   ii. 0.30 lbs/mmBTU derived from liquid fuel [401 KAR 59:015, Section 6 (1)(b)].
d. For any combination of fuels, emissions of nitrogen oxides shall not exceed 60.13 tons during any twelve (12) consecutive months from Boilers 1 and 2 [*BACT Limit*].

For Boiler #3:

a. During natural gas/process gas combustion:
   i. Emissions of particulate matter shall not exceed 0.0147 lb/mmBTU [401 KAR 59:015, Section 4 (1) and Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].
   ii. Emissions of sulfur dioxide shall not exceed 0.0013 lb/mmBTU [401 KAR 59:015, Section 5 and Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].
b. During fuel oil #2 combustion:
   i. Emissions of particulate matter shall not exceed 0.0147 lb/mmBTU [401 KAR 59:015, Section 4 (1) and Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].
   ii. Emissions of sulfur dioxide shall not exceed 0.0013 lb/mmBTU [401 KAR 59:015, Section 5 and Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

A. BOILERS: (continued)

For Boiler #3:

c. For any combination of fuels:
   i. Emissions of particulate matter shall not exceed 4.82 tons during any twelve (12) consecutive months.
   ii. Emissions of sulfur dioxide shall not exceed 0.44 tons during any twelve (12) consecutive months.

For all boilers:

a. For any fuel used, no owner or operator shall cause to be discharged into the atmosphere emissions which exhibit greater than 20% opacity [401 KAR 59:015 Section 4 (2)] except as provided below:
   i. A maximum of 40% opacity is permissible for not more than 6 consecutive minutes in any 60 consecutive minute period during cleaning the fire box or blowing soot [401 KAR 59:015, Section 4(2)(b)]
   ii. The opacity standard does not apply during building a new fire for the period required to bring the boiler up to operating conditions, provided the method used is that recommended by the manufacturer and the time does not exceed the manufacturer's recommendations [401 KAR 59:015 Section 4(2)(c)].
   iii. The opacity standard does not apply during periods of startup and shutdown [401 KAR 50:055 Section 2(4)].
b. The sulfur content of the ethylene fuel oil or #2 fuel oil shall not exceed 0.5 percent by weight [40 CFR 60.42c (d)].

Compliance Demonstration Method: (For all three boilers)

Mass Emission Limits:

For particulate matter, NOx, and SO_2:

a. For each boiler, facilities that burn the fuels at the rates specified in this permit shall be deemed to be compliance with the applicable performance standards (lb/mmBTU limits).
b. Maintain continuous, 1-hour average and monthly fuel use records.
c. The permittee shall calculate and maintain records of the monthly emissions of $PM/PM_{10}/NOx/SO_2$ and the 12-month rolling total of emissions for each pollutant. For each boiler, compliance with the annual particulate matter, NOx, and SO_2 emission limits (tons per year) shall be determined by the following formula:

Actual Annual Emissions of $PM/PM_{10}/NOx/SO_2$ (tpy)	=	{[Natural gas used (SCC units/yr) x EF] + [Ethylene or #2 fuel oil used (SCC units/yr) x EF]} / 2000 (lb/ton)

where:
SCC units for Natural Gas are $mmft^3$ (million cubic feet)
SCC units for Ethylene and #2 fuel oil are Kgallons (thousand gallons)
EF - Emission Factor for PM, PM_{10}, NO_x, or SO_2 (lbs/SCC unit)

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

A. BOILERS: (continued)

d. In the 18-month period immediately preceding the date of expiration of this permit, the permittee shall perform stack tests for particulate matter and nitrogen oxides on any one boiler using **natural gas**. The performance tests shall be scheduled in a manner that will allow sufficient time:
   i. To conduct the performance tests;
   ii. To submit the test reports;
   iii. For verification of the test results by the division;
   iv. For use of the verified results as a basis for renewal of this permit.

e. See Testing Requirements.

Sulfur Content Limits:

For each boiler, the permittee shall demonstrate compliance with the fuel sulfur content limits in accordance with the procedures described in 40 CFR 60.44c (g) [fuel oil sampling and analysis] **OR** 40 CFR 60.44c (h)[fuel oil supplier certification].

Opacity Limits:

a. Once per calendar day, the permittee shall survey each boiler stack when burning ethylene or No. 2 fuel oil and maintain a daily log noting the following information:
   i. Whether any air emissions were visible from any individual stack;
   ii. All emission points from which visible emissions were observed;
   iii. Whether the visible emissions were normal for the boiler.

b. If no visible emissions are observed then no further observations are required. If visible emissions are observed, the permittee shall perform one of the following:
   i. The permittee shall perform a Method 9 reading for emission points of concern. The opacity observed shall be recorded in a daily log. The reading shall be performed by a representative of the permittee certified in Visible Emissions Evaluations. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators and the date of certification; or
   ii. The permittee shall observe and record in the daily log the following information:
      (1) The color of the emissions;
      (2) Whether the emissions were light or heavy;
      (3) The total duration of the visible emission incident;
      (4) The cause of the abnormal emissions; and
      (5) Any corrective actions taken.

c. For each boiler, no compliance demonstration is necessary while natural gas or Westlake process gas are the only fuels burned.

3. Testing Requirements:

a. Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

A. BOILERS: (continued)

3. Testing Requirements: (continued)

b. See General Condition **G**. (d).

c. In the 18-month period immediately preceding the date of expiration of this permit, the permittee shall perform stack tests for particulate matter, nitrogen oxides, and sulfur dioxide on each boiler using ethylene or No. 2 **fuel oil**. The performance tests shall be scheduled in a manner that will allow sufficient time:

i. To conduct the performance tests;

ii. To submit the test reports;

iii. For verification of the test results by the division;

iv. For use of the verified results as a basis for renewal of this permit.

This fuel oil testing requirement shall apply to each boiler *only if* the boiler operates at an annual capacity factor equal to or greater than 30% for fuel oil during any consecutive 12-month period.

4. Specific Monitoring Requirements:

The permittee shall monitor the following parameters:

a. The fuel consumption of each of the fuels (natural gas, Westlake process gas, ethylene fuel oil, No. 2 fuel oil) used at each boilers.

b. The sulfur content of the fuel oil burned.

5. Specific Recordkeeping Requirements:

The permittee shall maintain records of the following information:

a. Continuous (1-hour average) records of the fuel consumption at each boiler.

b. Monthly consumption records for each type of fuel used at each boiler. At beginning of each month, the permittee shall create and maintain a record of the fuel consumption during the previous 12 months for each boiler.

c. The permittee shall calculate and maintain 1-hour average and monthly records of the actual emissions of particulate matter, nitrogen oxides, and sulfur dioxide from each boiler. The permittee shall also maintain records of the rolling 12-month emission totals for each of these pollutants for each boiler.

d. The permittee shall maintain records of the sulfur content of the fuel oil burned.

6. Specific Reporting Requirements:

The permittee shall notify the Division within 7 days after Boiler #2 shuts down and prior to burning ethylene fuel oil in Boiler #1.

7. Specific Control Equipment Operating Conditions:

Low NO_x burners within Boiler #2 shall be used at all times while in operation. In the event that Boiler #2 is not operating, and the permittee desires to burn ethylene fuel oil in Boiler #1, all control devices from Boiler #2 must be translocated to Boiler #1 before operation can begin. [BACT limit]

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

B. PROCESS EQUIPMENT (THERMAL OXIDIZERS):

09 (09) **Two (2) Vinyl Chloride Thermal Oxidizers**
Capacity: 4.0 mmBTU/hr each
Fuel: Natural Gas with propane backup
Emissions: Natural gas combustion and vinyl chloride vapor emissions from PVC process
Controls: Wet scrubber following each oxidizer for acid gas

The following process equipment shall vent to the thermal oxidizers:

PVC Reaction and Stripping

12 PVC Polymerization Reactors
5 Blowdown Tanks
5 PVC Stripping Columns
12 PVC Polymerizer Condensers
5 Column Feed Tanks
3 Vinyl Chloride Monomer Pressure Tanks

Monomer Recovery System

1 Blowdown Recovery Splitter Tank
2 Wastewater Columns
1 Recovery Splitter Tank
8 Recovery compressors
3 Recovered VCM Charge Tanks
1 H.P. Displacement Tank
4 Boosters
6 Recovery Condensers
4 Blowdown Recovery Condensers

All process equipment listed shall also vent to the thermal oxidizers during preparation for maintenance activities.

APPLICABLE REGULATIONS:
401 KAR 57:002, which incorporates by reference federal regulation 40 CFR 61 Subpart F, *National emission standard for vinyl chloride*, applies to emissions of vinyl chloride from the process equipment listed above.

1. Operating Limitations: None

2. Emission Limitations:
a. The process equipment listed above shall vent to the thermal oxidizers to reduce the concentration of vinyl chloride in each exhaust stream to no more 10 ppm (3-hour average) [40 CFR 61.64 (a)(1), (b), (c), (d), and (e)].

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

B. PROCESS EQUIPMENT (THERMAL OXIDIZERS): (continued)

2. Emission Limitations: (continued)

b. For each **Reactor** [40 CFR 61.64 (a)]:

i. The concentration of vinyl chloride in each gas exhaust stream from each reactor shall not exceed 10 ppm (3-hour average) except as provided in paragraph 40 CFR 61.64 (a)(2) and 61.65 (a) [40 CFR 61.64(a)(1)].

ii. The reactor opening loss from each reactor is not to exceed 0.02 g vinyl chloride/kg (0.00002 lb vinyl chloride/lb) of polyvinyl chloride product, with the product determined on a dry solids basis [40 CFR 61.64(a)(2)].

iii. Except for an emergency manual vent valve discharge, there shall be no discharge to the atmosphere from any manual vent on a PVC reactor in vinyl chloride service [40 CFR 61.64(a)(3)].

c. For each **PVC Stripper** [40 CFR 61.64 (b)]:
The concentration of vinyl chloride in each exhaust gas stream from each stripper shall not exceed 10 ppm (3-hour average) except as provided in paragraph 40 CFR 61.65 (a).

d. For each **Mixing, Weighing, or Holding Container** [40 CFR 61.64 (c)]:
The concentration of vinyl chloride in each exhaust gas stream from each mixing, weighing, or holding container in vinyl chloride service which precedes the stripper in the plant process flow shall not exceed 10 ppm (3-hour average) except as provided in paragraph 40 CFR 61.65 (a).

e. For each **Monomer Recovery System** [40 CFR 61.64 (d)]:
The concentration of vinyl chloride in each exhaust gas stream from each monomer recovery system shall not exceed 10 ppm (3-hour average) except as provided in paragraph 40 CFR 61.65 (a).

Compliance Demonstration Method:

a. The process equipment listed above shall vent to the thermal oxidizers to reduce the concentration of vinyl chloride in each exhaust stream to no more 10 ppm (3-hour average).

b. A continuous emission monitor shall be used to monitor emissions of vinyl chloride in the exhaust gas stream from the thermal oxidizers [40 CFR 61.68(a)].

3. Testing Requirements: None

4. Specific Monitoring Requirements:

The permittee shall maintain, calibrate and operate according to manufacturer's specification, monitoring devices for the continuous measurement of:

a. The concentration of vinyl chloride in the exhaust gas stream from the thermal oxidizers. The device shall meet the requirements for vinyl chloride monitoring systems specified in 40 CFR 61.68 (a) - (f).

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

B. PROCESS EQUIPMENT (THERMAL OXIDIZERS): (continued)

4. Specific Monitoring Requirements: (continued)

b. The temperature in the combustion chamber of each thermal oxidizer.
c. The pressure loss of waste gas stream through each wet scrubber.
d. The scrubbing liquid pressure or flowrate to each wet scrubber.

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain continuous records of the following information:
   i. The concentration of vinyl chloride in the exhaust gas stream from the thermal oxidizers.
   ii. The temperature in the combustion chamber of each thermal oxidizer.
   iii. The pressure loss of waste gas stream through each wet scrubber.
   iv. The scrubbing liquid pressure or flowrate to each wet scrubber.
b. The permittee shall record the occurrence, duration, cause, and any corrective action taken for each incident when the exhaust gas stream from any of the process equipment listed above is released to the atmosphere without passing through a thermal oxidizer and the associated vinyl chloride continuous emission monitoring system. In such an event, the vinyl chloride content of the emission shall be calculated by best practical engineering judgement based on the discharge duration and known vinyl chloride concentration in the affected equipment as determined in accordance with 40 CFR 61.67 (h) or other acceptable method [40 CFR 61.68 (d)].
c. For each 3-hour period, the vinyl chloride content of emissions measured by the VC continuous emission monitor (CEM) shall be averaged (weighted according to the proportions of time that emissions were continuously monitored and that emissions by-passed the continuous monitor) for purposes of reporting excess emissions under 40 CFR 61.70 (c)(1) [40 CFR 61.68 (e)].
d. For each vinyl chloride emissions to the atmosphere determined in accordance with item (c) above to be in excess of 10 ppm, the permittee shall record the identity of the source(s), the date, time, and duration of the excess emission, the cause of the excess emission, and the approximate total vinyl chloride loss during the excess emission, and the method used for determining the vinyl chloride loss [40 CFR 61.68 (f)].
e. A daily operating record for each polyvinyl chloride reactor, including pressures and temperatures [40 CFR 61.71 (a)(4)].

6. Specific Reporting Requirements:

Pursuant to 40 CFR 61.70, the permittee shall submit to the Division quarterly (3 calendar months) reports of the following information:

a. A record of the vinyl chloride content of emissions from the vinyl chloride thermal oxidizers for each 3-hour period during which average emissions are in excess of 10 ppm . The number of 3-hour periods for which average emissions were determined during the reporting period shall be reported. If emissions in excess of the emission limits are not detected, the report shall contain a statement that no excess emissions have been determined [40 CFR 61.70 (c)(1)].

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

B. PROCESS EQUIPMENT (THERMAL OXIDIZERS): (continued)

6. Specific Reporting Requirements: (continued)

b. A record of any emissions from each reactor opening in excess of 0.00002 lb vinyl chloride/lb of polyvinyl chloride product. Emissions are to be determined in accordance with Section 61.67 (g)(5), except that emissions from each reactor are to be determined. The number of reactor openings during the reporting period shall be reported. If emissions in excess of the emission limits are not detected, the report shall include a statement that excess emissions have not been detected [40 CFR 61.70 (c)(3)].

The reporting shall be in accordance with the approved reporting schedule.

7. Specific Control Equipment Operating Conditions:

a. For each thermal oxidizer:
   i. The thermal oxidizer shall operate at a minimum temperature of 1700°F (3-hour average).
   ii. An **excursion** from the operating range specified above is any 3-hour period during which the average temperature in the thermal oxidizer was below the minimum specified.

b. For each wet scrubber following the thermal oxidizers:
   i. The wet scrubber shall be operated at a minimum flow rate of 70 gpm of liquid to the scrubber (3-hour average).
   ii. An **excursion** from the operating range specified above is any 3-hour period during which the average flow rate of scrubbing liquid to the scrubber was below the minimum specified.
   iii. The wet scrubber shall be operated at a minimum differential pressure drop of 3.5 inches of water (3-hour average).
   iv. An **excursion** from the operating range specified above is any 3-hour period during which the average pressure drop across the wet scrubber was below the minimum specified.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

C. PIPELINE EQUIPMENT:

20 (20) Fugitive leaks from process pipeline equipment

In vinyl chloride service:

Wastewater System:	928	light-liquid valves
	1252	flanges
Monomer Storage, Reaction and Stripping:	959	light-liquid valves
	1413	flanges
Vinyl Chloride Recycle:	920	gas-vapor valves
	1240	flanges
Blowdown System, Slurry Stripping:	171	light-liquid valves
	334	flanges
Wastewater Stripping:	26	gas-vapor valves
	62	flanges
Column Feed Tanks:	35	gas-vapor valves
	45	light-liquid valves
	190	flanges
Drop Filter:	6	light-liquid valves
	24	flanges
Caustic Scrubber:	12	light-liquid valves
	15	flanges
	1	light-liquid pump
Membrane Separator:	12	gas/vapor valves
	84	flanges
	9	light-liquid valves

In VOC service:

Initiator Storage:	12	light-liquid valves
	26	flanges
	8	light-liquid pumps
Mineral Oil Storage:	5	light-liquid valves
	20	flanges
	4	light-liquid pumps

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

C. PIPELINE EQUIPMENT: (continued)

In VOC service: (continued)

Initiator Charge System:	6	light-liquid valves
	2	flanges
	2	light-liquid pumps
Brine Storage Tank:	20	light-liquid valves
	80	flanges
	2	compressors

NOTE - The pipeline equipment count listed above reflects an accurate count of the equipment as of the date of issuance of this permit but is not intended to limit the permittee to the exact numbers specified. The permittee may add or remove pipeline equipment without a permit revision as long as the equipment continues to comply with the requirements listed below.

APPLICABLE REGULATIONS:
401 KAR 57:002, which incorporates by reference federal regulation 40 CFR 61 Subpart F, *National emission standard for vinyl chloride*, applies to the pipeline equipment in *vinyl chloride service* listed above.

1. Operating Limitations: None

2. Emission Limitations:

a. The permittee shall operate a reliable and accurate leak monitoring system in accordance with 40 CFR 61.65 (b)(8)(i), (ii) and (iii) to minimize emissions of vinyl chloride due to leaks from equipment in vinyl chloride service. This includes implementation of a formal leak detection and repair program consistent with 40 CFR 61 Subpart V [40 CFR 61.65 (b)(8)(ii)].

b. Leakage from pumps, compressors, and agitator seals shall be minimized in accordance with the following procedures:
   i. For rotating pumps, in accordance with 40 CFR 61.65 (b)(3)(i).
   ii. For reciprocating pumps, in accordance with 40 CFR 61.65 (b)(3)(ii).
   iii. For rotating compressors, in accordance with 40 CFR 61.65 (b)(3)(iii).
   iv. For reciprocating compressors, in accordance with 40 CFR 61.65 (b)(3)(iv).
   v. For agitators, in accordance with 40 CFR 61.65 (b)(3)(v).

3. Testing Requirements:

The vinyl chloride leak detection system shall comply with the test methods and procedures described in 40 CFR 61.245.

4. Specific Monitoring Requirements: None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

C. PIPELINE EQUIPMENT: (continued)

5. Specific Recordkeeping Requirements:

The permittee shall keep records of the following information;

a. A record of the leaks detected by the vinyl chloride monitoring system, as required by 40 CFR 61.65 (b)(8), including the concentrations of vinyl chloride measured, analyzed, and recorded by the vinyl chloride detector, the location of each measurement and the date and approximate time of each measurement [40 CFR 61.71 (a)(1)].

b. A record of the leaks detected during routine monitoring with the portable hydrocarbon detector and the action taken to repair the leaks, as required by 40 CFR 61.65(b)(8), including a brief statement explaining the location and the cause of each leak detected with the portable hydrocarbon detector, the date and time of the leak, and any action take to eliminate that leak [40 CFR 61.71 (a)(2)].

c. For the vinyl chloride leak detection system, the permittee shall comply with the recordkeeping requirements described in 40 CFR 61.246.

6. Specific Reporting Requirements:

In accordance with 40 CFR 61.247 (b), for the vinyl chloride leak detection system, the permittee shall submit semi-annual reports that include the following information:

a. Process unit identification.

b. For each month during the semi-annual reporting period:

   i. Number of pumps for which leaks were detected as described in 40 CFR 61.242-2 (b) and (d)(6).

   ii. Number of pumps for which leaks were not repaired as described in 40 CFR 61.242-2 (c) and (d)(6).

   iii. Number of compressors for which leaks were detected as described in 40 CFR 61.242-3 (f).

   iv. Number of compressors for which leaks were not repaired as described in 40 CFR 61.242-3 (g).

   v. The facts that explain any delay of repairs and, where appropriate, why a process unit shutdown was technically infeasible.

c. Dates of process unit shutdowns which occurred within the semi-annual reporting period.

d. The results of all performance tests and monitoring conducted to determine compliance with no detectable emissions and with 40 CFR 61.243-1 and 61.243-2 conducted during the semi-annual reporting period.

For valves, the permittee has elected to comply with the alternate emission standards specified in 40 CFR 61.243-1 and 40 CFR 61.65 (b)(8)(ii). Accordingly, annual reports shall be submitted with the following information:

a. Number of valves for which leaks were detected as described in 40 CFR 61.243-1 (c).

b. Number of valves for which leaks were not repaired as required in 40 CFR 61.242-7 (d).

c. Percentage of leaking valves.

7. Specific Control Equipment Operating Conditions: None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

D. SLURRY BLEND TANKS:

12 (12) Slurry Blend Tanks

APPLICABLE REGULATIONS:
401 KAR 57:002, which incorporates by reference federal regulation 40 CFR 61 Subpart F, *National emission standard for vinyl chloride*, applies to the Slurry Blend Tanks.

1. Operating Limitations:

a. Prior to completion of construction of the 3 new PVC stripping columns authorized by this permit, the dry PVC production rate shall not exceed 450,000 tons during any consecutive 12-month period and the weighted average residual vinyl chloride concentration in all grades of polyvinyl chloride resins processed through the existing stripping columns, measured immediately after the stripping operation is completed and prior to entering any of the dryers, may not exceed 90 ppm as a twelve (12) month average [Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].

b. Upon completion of construction of the 3 new PVC stripping columns authorized by this permit, the dry PVC production rate maybe increased up to 750,000 tons during any consecutive 12-month period and the weighted average residual vinyl chloride concentration in all grades of polyvinyl chloride resins processed through the stripping operation, measured immediately after the stripping operation is completed and prior to entering any of the dryers may not exceed 40 ppm as a twelve (12) month average [Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].

c. The weighted average residual vinyl chloride concentration in all grades of polyvinyl chloride resin processed through the stripping operation on each calendar day, measured immediately after the stripping operation is completed and prior to entering any of the dryers may not exceed 400 ppm as a daily-average [40 CFR 61.64 (e) (1)(ii)].

Compliance Demonstration Method:
The permittee shall maintain a daily (each calendar day) record of the following information:

a. The total number of batches of PVC produced per day.
b. Average weight of dry PVC produced per batch.
c. Average vinyl chloride content in the PVC resin produced [40 CFR 61.70 (c)(2)(ii)].

The permittee shall maintain monthly records of the following information:

a. Total weight of dry PVC produced.
b. Weighted average vinyl chloride content in PVC resin produced during the previous 12 months.
c. Total weight of dry PVC produced during the previous 12 months.

2. Emission Limitations: None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

D. SLURRY BLEND TANKS:

3. Testing Requirements:

The vinyl chloride content in the PVC resin shall be determined by Test Method 107 as prescribed in 40 CFR 61.67 (g)(3) [40 CFR 61.70 (c)(2)(iii)].

4. Specific Monitoring Requirements:

The permittee shall monitor the following parameters:

a. The total number of batches of PVC produced per day.
b. Weight of dry PVC produced in batch.
c. Average vinyl chloride content in the PVC resin produced [40 CFR 61.70 (c)(2)(ii)].

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain a daily (each calendar day) record of the following information:
   i. The total number of batches of PVC produced per day.
   ii. Weight of dry PVC produced per batch.
   iii. Average weight of dry PVC produced per batch.
   iv. Average vinyl chloride content in the PVC resin determined in accordance with 40 CFR 61.70 (c)(2)(ii), (iii) and (iv).
b. The permittee shall maintain monthly records of the following information:
   i. Total weight of dry PVC produced.
   ii. Weighted average vinyl chloride content in PVC resin produced during the previous 12 months.
   iii. Total weight of dry PVC produced during the previous 12 months.

6. Specific Reporting Requirements:

In accordance with 40 CFR 61.70, the permittee shall submit to the Division quarterly (3 calendar months) reports of the following information:

a. 40 CFR 61.70 (c)(2) - A record of the daily average vinyl chloride content in the PVC resin. The vinyl chloride content in the polyvinyl chloride resin produced as determined by Reference Method 107. Samples shall be taken immediately following the stripping operation.
b. 40 CFR 61.70 (c)(2)(v) - A record of any 24-hour average resin vinyl chloride concentration in excess of 400 ppm.

7. Specific Control Equipment Operating Conditions: None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

E. DRYERS:

01	(01)	**Rotary Dryer #2**	Capacity:	5.0 mmBTU/hr
			Fuel:	Natural Gas
			Emissions:	Fuel combustion and process emissions
			Control:	Multiple cyclone
07	(07)	**Fluidized Bed Dryer**	Emissions:	Process emissions
			Control:	Multiple cyclone
08	(08)	**Flash Dryer**	Capacity:	5.0 mmBTU/hr
			Fuel:	Natural Gas
			Emissions:	Fuel combustion and process emissions
			Control:	Multiple cyclone
21	(21)	**Rotary Dryer #3**	Capacity:	14.17 mmBTU/hr
			Fuel:	Natural Gas
			Emissions:	Fuel combustion and process emissions
			Control:	Multiple cyclone
33	(33)	**Fluidized Bed Dryer**	Capacity:	16.0 mmBTU/hr
			Fuel:	Natural Gas
			Emissions:	Fuel combustion and process emissions
			Control:	Multiple cyclone + venturi scrubber
34	(34)	**Fluidized Bed Dryer**	Capacity:	16.0 mmBTU/hr
			Fuel:	Natural Gas
			Emissions:	Fuel combustion and process emissions
			Control:	Multiple cyclone + venturi scrubber
35	(35)	**Fluidized Bed Dryer**	Capacity:	16.0 mmBTU/hr
			Fuel:	Natural Gas
			Emissions:	Fuel combustion and process emissions
			Control:	Multiple cyclone + venturi scrubber
36	(36)	**Fluidized Bed Dryer**	Capacity:	16.0 mmBTU/hr
			Fuel:	Natural Gas
			Emissions:	Fuel combustion and process emissions
			Control:	Multiple cyclone + venturi scrubber

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

E. DRYERS: (continued)

APPLICABLE REGULATIONS:

a. 401 KAR 57:002, which incorporates by reference federal regulation 40 CFR 61 Subpart F, *National emission standard for vinyl chloride,* applies to each of the dryers listed above.
b. 401 KAR 59:010, *New process operations*, applies to each of the dryers listed above except Rotary Dryer #2 (EP 01).
c. 401 KAR 61:020, *Existing process operations*, applies to Rotary Dryer #2 (EP 01).

1. Operating Limitations:

a. The total dry PVC production rate from all process drying equipment (1 flash dryer, 5 fluidized bed dryers, 2 rotary dryers) shall not exceed 750,000 tons during any consecutive 12-month period [Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].
b. Prior to completion of construction of the 3 new PVC stripping columns authorized by this permit, the dry PVC production rate shall not exceed 450,000 tons during any consecutive 12-month period and the weighted average residual vinyl chloride concentration in all grades of polyvinyl chloride resins processed through the existing stripping columns, measured immediately after the stripping operation is completed and prior to entering any of the dryers, may not exceed 90 ppm as a twelve (12) month average [Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].
c. Upon completion of construction of the 3 new PVC stripping columns authorized by this permit, the dry PVC production rate maybe increased up to 750,000 tons during any consecutive 12-month period and the weighted average residual vinyl chloride concentration in all grades of polyvinyl chloride resins processed through the stripping operation, measured immediately after the stripping operation is completed and prior to entering any of the dryers may not exceed 40 ppm as a twelve (12) month average [Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].
d. The weighted average residual vinyl chloride concentration in all grades of polyvinyl chloride resin processed through the stripping operation on each calendar day, measured immediately after the stripping operation is completed and prior to entering any of the dryers may not exceed 400 ppm as a daily average [40 CFR 61.64 (e) (1)(ii)].

Compliance Demonstration Method:

The permittee shall maintain a daily (each calendar day) record of the following information:

a. The total number of batches of PVC produced per day.
b. Average weight of dry PVC produced per batch.
c. Average vinyl chloride content in the PVC resin produced [40 CFR 61.70 (c)(2)(ii)].

The permittee shall maintain monthly records of the following information:

a. Total weight of dry PVC produced.
b. Weighted average vinyl chloride content in PVC resin produced during the previous 12 months.
c. Total weight of dry PVC produced during the previous 12 months.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

E. DRYERS: (continued)

2. Emission Limitations:

For the Rotary Dryer #2 (EP# 01)**:**

a. Emissions of particulate matter shall not exceed 2.96 lb/hr [401 KAR 61:020, Section 3 (2)(a)].
b. The opacity of visible emissions shall not equal or exceed 40 percent [401 KAR 61:020, Section 3 (1)].

For the Fluidized Bed Dryer (EP# 07)**:**

a. Emissions of particulate matter shall not exceed 6.28 lb/hr [401 KAR 59:010, Section 3 (2) and Permit F-94-017 (Revision 2), *Synthetic Minor Limit*].
b. The opacity of visible emissions shall not equal or exceed 20 percent [401 KAR 59:010, Section 3 (1)].

For the Flash Dryer (EP# 08)**:**

a. Emissions of particulate matter shall not exceed 2.28 lb/hr [401 KAR 59:010, Section 3 (2) and Permit F-94-017 (Revision 2), *Synthetic Minor Limit*].
b. The opacity of visible emissions shall not equal or exceed 20 percent [401 KAR 59:010, Section 3 (1)].

For the Rotary Dryer #3 (EP# 21)**:**

a. Emissions of particulate matter shall not exceed 5.7 lb/hr [401 KAR 59:010, Section 3 (2) and Permit F-94-017 (Revision 2), *Synthetic Minor Limit*].
b. The opacity of visible emissions shall not equal or exceed 20 percent [401 KAR 59:010, Section 3 (1)].

For the Fluidized Bed Dryer (EP# 33)**:**

a. Emissions of particulate matter shall not exceed 2.0 lb/hr [401 KAR 59:010, Section 3 (2) and Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].
b. The opacity of visible emissions shall not equal or exceed 20 percent [401 KAR 59:010, Section 3 (1)].

For the Fluidized Bed Dryer (EP# 34)**:**

a. Emissions of particulate matter shall not exceed 2.0 lb/hr [401 KAR 59:010, Section 3 (2) and Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].
b. The opacity of visible emissions shall not equal or exceed 20 percent [401 KAR 59:010, Section 3 (1)].

For the Fluidized Bed Dryer (EP# 35)**:**

a. Emissions of particulate matter shall not exceed 2.0 lb/hr [401 KAR 59:010, Section 3 (2) and Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].
b. The opacity of visible emissions shall not equal or exceed 20 percent [401 KAR 59:010, Section 3 (1)]

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

E. DRYERS: (continued)

2. Emission Limitations: (continued)

For the Fluidized Bed Dryer (EP# 36)**:**

a. Emissions of particulate matter shall not exceed 2.0 lb/hr [401 KAR 59:010, Section 3 (2) and Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].

b. The opacity of visible emissions shall not equal or exceed 20 percent [401 KAR 59:010, Section 3 (1)].

For the Rotary Dryers #2 and #3 (EP 01, 21)**, Fluidized Bed Dryer** (EP 07)**, and Flash Dryer** (EP 08)**:**

The multiple-cyclone on each dryer shall control emissions of particulate matter and be operated properly in accordance with manufacturer's specifications and/or standard operating procedures at all times the dryer is in operation. A dryer is considered in operation any time PVC resin is dried in it. The permittee is required to use the multiple-cyclone on each dryer in order to meet the respective particulate matter emission standard for each dryer.

For the Fluidized Bed Dryers (EP 33, 34, 35, 36)**:**

The multiple-cyclone and venturi scrubber on each dryer shall control emissions of particulate matter and be operated properly in accordance with manufacturer's specifications and/or standard operating procedures at all times the dryer is in operation. A dryer is considered in operation any time PVC resin is dried in it. The permittee is required to use the multiple-cyclone and venturi scrubber on each dryer in order to meet the respective particulate matter emission standard for each dryer.

Compliance Demonstration Method:

For each dryer -

a. Mass Emission Standard:

A summary of the emission limits for each dryer is present below:

Source	PM/PM_{10} Limit
Rotary Dryer #2 (EP 01)	2.96 lb/hr
Fluidized Bed Dryer (EP 07)	6.28 lb/hr
Flash Dryer (EP 08)	2.28 lb/hr
Rotary Dryer #3 (EP 21)	5.70 lb/hr
Fluidized Bed Dryer (EP 33)	2.00 lb/hr
Fluidized Bed Dryer (EP 34)	2.00 lb/hr
Fluidized Bed Dryer (EP 35)	2.00 lb/hr
Fluidized Bed Dryer (EP 36)	2.00 lb/hr

Total PM/PM_{10} Emission Limit for all dryers combined =	25.22 lb/hr

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

E. DRYERS: (continued)

2. Emission Limitations: (continued)
Compliance Demonstration Method:
For each dryer -

a. Mass Emission Standard: (continued)
Compliance with the particulate matter emission limits for the dryers shall be demonstrated in aggregate. The dryers will be considered in compliance with the above limits if the actual particulate matter emissions from all dryers combined are less than the sum of the particulate matter limits (25.22 lb/hr) of the individual dryers. Actual emissions will be calculated as follows:

Actual PM/PM_{10} Emission Rate = [Monthly dry PVC resin production rate] x [Weighted emission factor (in pounds PM/per ton dry PVC)] ÷ [Monthly hours of operation of the dryers]

where,

Weighted emission factor = Σ[(Allowable emission rate for dryer *i*) x (Emission factor for dryer *i* observed during last stack test)] ÷ Σ(Allowable emission rate for dryer *i*)

b. Opacity Limit:
i. During periods of normal operation of the cyclone and/or venturi scrubber, no compliance demonstration is necessary.
ii. If a dryer is in operation during any period of malfunction of its cyclone and/or venturi scrubber, the permittee shall determine compliance through maintenance of the records required by Item e. under **5. Specific Recordkeeping Requirements below**.

c. Use of Cyclone: (For EP 01, 07, 08, and 21)
The permittee shall record the occurrence, duration, cause, and any corrective action taken for each incident when a dryer is in operation but the corresponding cyclone is not.

d. Use of Cyclone and Venturi Scrubber: (For EP 33, 34, 35, and 36)
The permittee shall record the occurrence, duration, cause, and any corrective action taken for each incident when the dryer is in operation but the corresponding cyclone and/or venturi scrubber are not.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

E. DRYERS: (continued)

3. Testing Requirements:

a. Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.
b. The vinyl chloride content in the PVC resin shall be determined by Test Method 107 as prescribed in 40 CFR 61.67 (g)(3) [40 CFR 61.70 (c)(2)(iii)].
c. See General Condition **G**. (d).

4. Specific Monitoring Requirements:

The permittee shall monitor the following parameters:

a. The total number of batches of PVC produced per day.
b. Weight of dry PVC produced in batch.
c. Average vinyl chloride content in the PVC resin determined in accordance with 40 CFR 61.70 (c)(2)(ii), (iii) and (iv).
d. Amount of natural gas used at each dryer per month.
e. For each cyclone, the permittee shall maintain, calibrate and operate according to manufacturer's specification, a monitoring device for the continuous measurement of the air flow rate through the cyclone.
f. For each venturi scrubber, the permittee shall maintain, calibrate and operate according to manufacturer's specification, a monitoring device for the continuous measurement of:
    i. The pressure loss of gas stream through the scrubber.
    ii. The scrubbing pressure and/or liquid flow rate to the scrubber.

5. Specific Recordkeeping Requirements:

a. The permittee shall maintain continuous records of the following information:
    i. The air flow rate through each cyclone.
    ii. The pressure loss of gas stream through the scrubber.
    iii. The scrubbing pressure and/or liquid flow rate to the scrubber.
b. The permittee shall maintain a daily (each calendar day) record of the following information:
    i. The total number of batches of PVC produced per day.
    ii. Weight of dry PVC produced per batch.
    iii. Average weight of dry PVC produced per batch.
    iv. Average vinyl chloride content in the PVC resin determined in accordance with 40 CFR 61.70 (c)(2)(ii), (iii) and (iv).

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

E. DRYERS: (continued)

5. Specific Recordkeeping Requirements: (continued)

c. The permittee shall maintain monthly records of the following information:
   i. Total weight of dry PVC produced.
   ii. Weighted average vinyl chloride content in PVC resin produced during the previous 12 months.
   iii. Total weight of dry PVC produced during the previous 12 months.
   iv. Amount of natural gas used at each dryer.
   v. Hours of operation of each dryer.

d. The permittee shall record the occurrence, duration, cause, and any corrective action taken for each incident when the dryer is in operation but the corresponding cyclone and/or venturi scrubber are not.

e. During all periods of malfunction of any cyclone or venturi scrubber, if the corresponding dryer is in operation, a daily (calendar day) log of the following information shall be kept:
   i. Whether any air emissions were visible from the dryer stack;
   ii. Whether the visible emissions were normal for the stack.

   If no abnormal visible emissions are observed, then no further observations or records are required. If abnormal visible emissions are observed, the permittee shall perform **one** of the following:

   iii. The permittee shall perform a Method 9 reading for Stack A. The opacity observed shall be recorded in the daily log. The reading shall be performed by a representative of the permittee certified in Visible Emissions Evaluations. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators and the date of certification; **OR**

   iii. The permittee shall observe and record in the daily log the following additional information regarding the dryer stack:
      (1) The color of the emissions;
      (2) Whether the emissions were light or heavy;
      (3) The total duration of the visible emission incident;
      (4) The cause of the abnormal emissions; and
      (5) Any corrective actions taken.

f. All maintenance activities performed at the cyclones and venturi scrubbers.

6. Specific Reporting Requirements:

In accordance with 40 CFR 61.70, the permittee shall submit to the Division quarterly (3 calendar months) reports of the following information:

a. 40 CFR 61.70 (c)(2) - A record of the daily average vinyl chloride content in the PVC resin. The vinyl chloride content in the polyvinyl chloride resin produced as determined by Reference Method 107. Samples shall be taken immediately following the stripping operation.

b. 40 CFR 61.70 (c)(2)(v) - A record of any 24-hour average resin vinyl chloride concentration in excess of 400 ppm.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

E. DRYERS: (continued)

7. Specific Control Equipment Operating Conditions:

For the cyclones at EP 01 (Rotary Dryer #2) and EP 21 (Rotary Dryer #3):

a. The cyclone shall be operated at a minimum air flow rate of 17,100 scfm (3-hour average).
b. An **excursion** from the operating range specified above is any 3-hour period during which the average air flow rate through the cyclone was below the minimum specified.

For the cyclone at EP 07 (Fluidized Bed Dryer):

a. The cyclone shall be operated at a minimum air flow rate of 15,700 scfm (3-hour average).
b. An **excursion** from the operating range specified above is any 3-hour period during which the average air flow rate through the cyclone was below the minimum specified.

For the cyclone at EP 08 (Flash Dryer):

a. The cyclone shall be operated at a minimum air flow rate of 23,900 scfm (3-hour average).
b. An **excursion** from the operating range specified above is any 3-hour period during which the average air flow rate through the cyclone was below the minimum specified.

For the cyclones at EP 33, 34, 35, and 36 (Fluidized Bed Dryers):

a. The cyclone shall be operated at a minimum air flow rate of 31,200 scfm (3-hour average).
b. An **excursion** from the operating range specified above is any 3-hour period during which the average air flow rate through the cyclone was below the minimum specified.

For each venturi scrubber at EP 33, 34, 35, and 36 (Fluidized Bed Dryers):

a. The scrubber shall be operated at a minimum scrubbing liquid flow rate of 220 gallons per minute (3-hour average).
b. An **excursion** from the operating range specified above is any 3-hour period during which the average pressure drop across the reverse jet scrubber was below the minimum specified.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

F. PVC STORAGE SILOS:

03 (03) Sixteen (16) PVC Storage Silos
Capacity: 650,000 pounds each
Emissions: Particulate emissions during loading and unloading of silos
Control: Each silo is equipped with a baghouse.

APPLICABLE REGULATIONS:
401 KAR 59:010, *New process operations*, applies to each polyvinyl chloride storage silo.

1. Operating Limitations: None

2. Emission Limitations:
For **each** PVC storage silo:
a. Emissions of particulate matter shall not exceed 0.15 lb/hr [401 KAR 59:010, Section 3 (2) and Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].
b. Emissions of particulate matter shall not exceed 0.5 tons during any consecutive 12 months [Permit F-96-023 (Revision 1), *Synthetic Minor Limit*].
c. The opacity of visible emissions shall not equal or exceed 20 percent [401 KAR 59:010, Section 3 (1)].
d. The baghouse associated with each silo shall control emissions of particulate matter and be operated properly in accordance with manufacturer's specifications and/or standard operating procedures at all times the silo is loaded or unloading. The permittee is required to use the baghouse associated with each silo in order meet the respective particulate matter emission standard for each silo.

Compliance Demonstration Method:
For **each** PVC storage silo:
a. Mass Emission Standard and Opacity Limit:
Compliance with the mass emission standard and the opacity standard shall be demonstrated through daily visual observations of each silo bin vent. This requirement shall be fulfilled by monitoring the parameters specified in **4**.d (See **Specific Monitoring Requirements**) and maintaining the records required by **5**.c. (See **Specific Recordkeeping Requirements**).

b. Use of Baghouse:
The permittee shall record the occurrence, duration, cause, and any corrective action taken for each incident when a silo is loaded or unloaded but the corresponding baghouse is not in operation.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

F. PVC STORAGE SILOS:

3. Testing Requirements:

a. Pursuant to Regulations 401 KAR 59:005, Section 2(2) and 401 KAR 50:045, Section 1, performance testing using the Reference Methods specified in Regulation 401 KAR 50:015 shall be conducted as required by the Division.

b. See General Condition **G**. (d).

4. Specific Monitoring Requirements:

The permittee shall monitor the following parameters:

a. Throughput of dry PVC at each silo per month.

b. Hours of operation of each silo per month.

c. The permittee shall install, calibrate, maintain, and operate according to manufacturer's specification a monitoring device for the continuous measurement of the pressure loss of the gas stream through each PVC silo baghouse.

d. The permittee shall observe each PVC silo bin vent for visible emissions once per calendar day and maintain the records required by Item **5.**c. below.

5. Specific Recordkeeping Requirements:

The permittee shall maintain records of the following information:

a. Throughput of dry PVC at each silo per month.

b. Hours of loading for each silo per month.

c. To comply with the requirements of Item **4.**d. above, the permittee shall maintain a daily (calendar day) log of the following information:

i. Whether any air emissions were visible from the silo bin vent;

ii. Whether the visible emissions were normal for the bin vent.

If no abnormal visible emissions are observed, then no further observations or records are required. If abnormal visible emissions are observed, the permittee shall perform **one** of the following:

iii. The permittee shall perform a Method 9 reading for the silo bin vent. The opacity observed shall be recorded in the daily log. The reading shall be performed by a representative of the permittee certified in Visible Emissions Evaluations. The permittee shall maintain a list of all individuals that are certified Visible Emissions Evaluators and the date of certification; **OR**

iii. The permittee shall observe and record in the daily log the following additional information regarding the silo bin vent:

(1) The color of the emissions;

(2) Whether the emissions were light or heavy;

(3) The total duration of the visible emission incident;

(4) The cause of the abnormal emissions; and

(5) Any corrective actions taken.

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

F. PVC STORAGE SILOS:

5. Specific Recordkeeping Requirements: (continued)

d. For each PVC silo baghouse, a record of the following information:
   i. A weekly record of the pressure loss of the gas stream through each PVC silo baghouse.
   ii. Findings of the daily visual inspection and any corrective actions taken as a result.

e. All maintenance activities performed at the baghouses.

6. Specific Reporting Requirements:

None

7. Specific Control Equipment Operating Conditions:

None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

G. PVC RAILCAR LOADING:

06	(06)	PVC Railcar Loading Type of emissions: Particulate emissions generated during railcar loading

APPLICABLE REGULATIONS:
401 KAR 63:010, *Fugitive emissions*, applies to the PVC railcar loading operations.

1. Operating Limitations:
None

2. Emission Limitations:
All reasonable measure shall be taken to prevent particulate matter from becoming airborne at all times from the PVC railcar loading operations. These measures shall include, but are not limited to the following:

a. Heavy curtains shall be used to enclose the PVC loading operations while in service.
b. Water (or an equivalent dust suppressant) shall be used as a means of wet suppression to hose down each railcar or truck and the surrounding area following the loading of each vehicle.

Alternate methods of fugitive dust suppression equivalent to those specified in a. and b. above may be used if approved by the division. The permittee shall notify the division and obtain approval prior to implementing any such alternate methods.

3. Testing Requirements:
None

4. Specific Monitoring Requirements:
None

5. Specific Recordkeeping Requirements:
None

6. Specific Reporting Requirements:
None

7. Specific Control Equipment Operating Conditions:
None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

H. WASTEWATER TREATMENT SYSTEM:

10 (10) Wastewater Treatment System

APPLICABLE REGULATIONS:
401 KAR 57:002, which incorporates by reference federal regulation 40 CFR 61 Subpart F, *National emission standard for vinyl chloride*, applies to the wastewater treatment system.

1. Operating Limitations: None

2. Emission Limitations:

a. The concentration of vinyl chloride in each inprocess wastewater stream containing greater than 10 ppm vinyl chloride measured immediately as it leaves a piece of equipment and before it is mixed with any other inprocess wastewater stream is to be reduced to no more than 10 ppm by weight before being mixed with any other inprocess wastewater stream which contains less than 10 ppm vinyl chloride; before being exposed to the atmosphere; before being discharged to the wastewater treatment system; or before being discharged untreated as a wastewater [40 CFR 61.65 (b)(9)(i)].

b. Any vinyl chloride removed from the inprocess wastewater in accordance with the paragraph above is to be ducted through a control system from which the concentration of vinyl chloride in the exhaust gases does not exceed 10 ppm (3-hour average) [40 CFR 61.65 (b)(9)(ii)].

3. Testing Requirements:

The permittee shall sample and analyze, on a monthly basis, each inprocess wastewater stream to determine the concentration of vinyl chloride in accordance with 40 CFR 61.67 (g)(2).

4. Specific Monitoring Requirements:

None

5. Specific Recordkeeping Requirements:

The permittee shall maintain a daily record of the wastewater flow (gallons per day) through the wastewater treatment system.

6. Specific Reporting Requirements:

None

7. Specific Control Equipment Operating Conditions:

None

SECTION B - EMISSION POINTS, EMISSIONS UNITS, APPLICABLE REGULATIONS, AND OPERATING CONDITIONS (CONTINUED)

I. COOLING TOWER:

30	(30)	Cooling Tower

APPLICABLE REGULATIONS:
401 KAR 63:010, *Fugitive emissions*, applies to the cooling tower.

1. **Operating Limitations:**
   None

2. **Emission Limitations:**
   All reasonable measure shall be taken to prevent particulate matter from becoming airborne at all times. These measures shall include, but are not limited to the following:
   The cooling tower shall be equipped with a mist eliminator.

3. **Testing Requirements:**
   None

4. **Specific Monitoring Requirements:**
   None

5. **Specific Recordkeeping Requirements:**
   None

6. **Specific Reporting Requirements:**
   None

7. **Specific Control Equipment Operating Conditions:**
   None

SECTION C - INSIGNIFICANT ACTIVITIES

The following listed activities have been determined to be insignificant activities for this source pursuant to 401 KAR 52:020, Section 6. While these activities are designated as insignificant the permittee must comply with the applicable regulation and some minimal level of periodic monitoring may be necessary.

EP#	Description	Generally Applicable Regulation
(16)	Fuel Oil #2 Tank (40,000 gallons)	None
(17)	Fuel Oil Transport Pipeline Fugitives	None
(19)	Natural Gas Transport Pipeline Fugitives	None
(42)	Chain Transfer Tank (1,800 gallons)	None
(44)	Initiator Makeup Tank (2,000 gallons)	None
(45)	Initiator Makeup Tank (10,000 gallons)	None
(48)	Initiator Charge Tank (2,000 gallons)	None
(49)	Initiator Charge Tank (10,000 gallons)	None
(53)	Mineral Oil Tank (10,000 gallons)	None
(54)	Propylene Glycol (3,000 gallons)	None
(55)	Polyvic Tank (800 gallons)	None
(56)	Bag Dumping in Charge System	401 KAR 63:010
(57-62)	Six (6) Space Heaters (0.1 mmBTU/hr each)	None
(63)	Solvent Parts Washer	None
(64)	Fugitive Traffic Dust	401 KAR 63:010
(65)	20% NaOH Storage Tank (50,000 gallons)	None
(66)	20% NaOH Unloading Station	None
(67)	Q/C Lab Fume Hoods	None
(68)	Reaction Stopper Storage Container (25 gallons)	None
(69)	Recovery System Inhibitor Tank (200 gallons)	None
(70)	Railcar Cleaning Station (10 railcars/month)	None
(71)	Industrial Refrigeration Unit (900 tons)	None
(72-76)	Five (5) Industrial Refrigeration Units (1,400 tons each)	None
(77)	500 hp Backup Diesel Engine for Carrier Dryer with potential to operate 500 hours per year (per US EPA title V White Paper)	None

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS

1. As required by Section 1b of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26; compliance with annual emissions and processing limitations contained in this permit, shall be based on emissions and processing rates for any twelve (12) consecutive months.

2. Vinyl chloride emissions, as measured by methods referenced in 401 KAR 50:015, Section 1, shall not exceed the respective limitations specified herein.

3. Pursuant to 40 CFR 61.65, the permittee shall comply with the following requirements for the entire polyvinyl chloride plant:

   a. *Relief Valve Discharge* - Except for an emergency relief discharge, and except as provided in 40 CFR 61.65(d), there is to be no discharge to the atmosphere from any relief valve on any equipment in vinyl chloride service. An emergency relief discharge means a discharge which could not have been avoided by taking measures to prevent the discharge. Within 10 days of any relief valve discharge, except for those subject to 40 CFR 61.65(d), the owner or operator of the source from which the relief valve discharge occurs shall submit to the Division a report in writing containing information on the source, nature and cause of the discharge, the date and time of the discharge, the approximate total vinyl chloride loss during the discharge, the method used for determining the vinyl chloride loss (the calculation of the vinyl chloride loss), the action that was taken to prevent the discharge, and measures adopted to prevent future discharges.

   b. *Loading and Unloading Lines* - Vinyl chloride emissions from loading and unloading lines in vinyl chloride service which are opened to the atmosphere after each loading or unloading operation are to be minimized as follows:
      i. After each loading or unloading operation and before opening a loading or unloading line to the atmosphere, the quantity of vinyl chloride in all parts of each loading or unloading line that are to be opened to the atmosphere is to be reduced so that the parts combined contain no greater than 0.0038 m^3 (0.13 ft^3) of vinyl chloride, at standard temperature and pressure; and
      ii. Any vinyl chloride removed from a loading or unloading line in accordance with paragraph 1.b.i. above is to be ducted through a control system from which the concentration of vinyl chloride in the exhaust gases does not exceed 10 ppm (average for 3-hour period), or equivalent as provided in 40 CFR 61.66.

   c. *Slip Gauges* - During loading or unloading operations, the vinyl chloride emissions from each slip gauge in vinyl chloride service are to be minimized by ducting any vinyl chloride discharged from the slip gauge through a control system from which the concentration of vinyl chloride in the exhaust gases does not exceed 10 ppm (average for 3-hour period), or equivalent as provided in 40 CFR 61.66.

   d. *Leaks from Relief Valves* - Vinyl chloride emissions due to leaks from each relief valve on equipment in vinyl chloride service shall comply with 40 CFR 61.242-4.

SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS (CONTINUED)

e. *Manual Venting of Gases* - Except as provided in 40 CFR 61.64(a)(3), all gases which are manually vented from equipment in vinyl chloride service are to be ducted through a control system from which the concentration of vinyl chloride in the exhaust gases does not exceed 10 ppm (average for 3-hour period); or equivalent as provided in 40 CFR 61.66.

f. *Opening of Equipment* - Vinyl chloride emissions from opening of equipment (excluding crude, intermediate, and final EDC storage tanks, but including prepolymerization reactors used in the manufacture of bulk resins and loading or unloading lines that are not opened to the atmosphere after each loading or unloading operation) are to be minimized follows:
   i. Before opening any equipment for any reason, the quantity of vinyl chloride which is contained therein is to be reduced to an amount which occupies a volume of no more than 2.0 percent of the equipment's containment volume or 0.0950 cubic meters (25 gallons), whichever is larger, at standard temperature and pressure.
   ii. Any vinyl chloride removed from the equipment in accordance with paragraph (b)(6)(i) of this section is to be ducted through a control system from which the concentration of vinyl chloride in the exhaust gases does not exceed 10 ppm (average for 3-hour period); or equivalent as provided in 40 CFR 61.66.

g. *Samples* - Unused portions of samples containing at least 10 percent by weight vinyl chloride are to be returned to the process or destroyed in a control device from which concentration of vinyl chloride in the exhaust gas does not exceed 10 ppm (average for 3-hour period) or equivalent as provided in 40 CFR 61.66. Sampling techniques are to be such that sample containers in vinyl chloride service are purged into a closed process system. Compliance with the provisions of 40 CFR 61 Subpart V demonstrates compliance with the provisions of this paragraph.

4. Prior to completion of construction of the 3 new PVC stripping columns authorized by this permit, the dry PVC production rate shall not exceed 450,000 tons per year and the vinyl chloride emissions from the process units following the existing strippers shall not exceed 98 lbs/hr and 41.5 tons/yr. Once construction is complete, the dry PVC production rate maybe increased up to 750,000 tons per year and the vinyl chloride emissions from the process units following the stripper shall not exceed 98 lb/hr and 30.0 tons/yr. The hourly and annual emission rates shall be determined as a daily (1 calendar day) and a quarterly (3 calendar month) average respectively. The actual emission rates shall be determined by material balance based on measurements of the residual vinyl chloride content in the polyvinyl chloride resin at the following points:
   i. Immediately following the stripping operation and prior to entering the slurry blend tanks.
   ii. Railcar/truck product loading.
   The vinyl chloride content shall be measured by Reference Method 107.

SECTION E - SOURCE CONTROL EQUIPMENT REQUIREMENTS

Pursuant to 401 KAR 50:055, Section 2(5), at all times, including periods of startup, shutdown and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Division which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

1. Pursuant to Section 1b (IV)1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26, when continuing compliance is demonstrated by periodic testing or instrumental monitoring, the permittee shall compile records of required monitoring information that include:
   a. Date, place as defined in this permit, and time of sampling or measurements.
   b. Analyses performance dates;
   c. Company or entity that performed analyses;
   d. Analytical techniques or methods used;
   e. Analyses results; and
   f. Operating conditions during time of sampling or measurement.

2. Records of all required monitoring data and support information, including calibrations, maintenance records, and original strip chart recordings, and copies of all reports required by the Division for Air Quality, shall be retained by the permittee for a period of five years and shall be made available for inspection upon request by any duly authorized representative of the Division for Air Quality [Sections 1b(IV) 2 and 1a(8) of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

3. In accordance with the requirements of 401 KAR 52:020 Section 3(1)h the permittee shall allow authorized representatives of the Cabinet to perform the following during reasonable times:
   a. Enter upon the premises to inspect any facility, equipment (including air pollution control equipment), practice, or operation;
   b. To access and copy any records required by the permit:
   c. Sample or monitor, at reasonable times, substances or parameters to assure compliance with the permit or any applicable requirements.

   Reasonable times are defined as during all hours of operation, during normal office hours; or during an emergency.

4. No person shall obstruct, hamper, or interfere with any Cabinet employee or authorized representative while in the process of carrying out official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

5. Summary reports of any monitoring required by this permit, other than continuous emission or opacity monitors, shall be submitted to the Regional Office listed on the front of this permit at least every six (6) months during the life of this permit, unless otherwise stated in this permit. For emission units that were still under construction or which had not commenced operation at the end of the 6-month period covered by the report and are subject to monitoring requirements in this permit, the report shall indicate that no monitoring was performed during the previous six months because the emission unit was not in operation [Section 1b (V)1 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

6. The semi-annual reports are due by January 30th and July 30th of each year. Data from the continuous emission and opacity monitors shall be reported to the Technical Services Branch in accordance with the requirements of 401 KAR 59:005, General Provisions, Section 3(3). All reports shall be certified by a responsible official pursuant to 401 KAR 52:020 Section 23. All deviations from permit requirements shall be clearly identified in the reports.

7. In accordance with the provisions of 401 KAR 50:055, Section 1 the owner or operator shall notify the Regional Office listed on the front of this permit concerning startups, shutdowns, or malfunctions as follows:
   a. When emissions during any planned shutdowns and ensuing startups will exceed the standards notification shall be made no later than three (3) days before the planned shutdown, or immediately following the decision to shut down, if the shutdown is due to events which could not have been foreseen three (3) days before the shutdown.
   b. When emissions due to malfunctions, unplanned shutdowns and ensuing startups are or may be in excess of the standards, notification shall be made as promptly as possible by telephone (or other electronic media) and shall submit written notice upon request.

8. The owner or operator shall report emission related exceedances from permit requirements including those attributed to upset conditions (other than emission exceedances covered by Section F.7. above) to the Regional Office listed on the front of this permit within 30 days. Other deviations from permit requirements shall be included in the semiannual report required by Section F.6 [Section 1b (V) 3, 4. of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

9. Pursuant to 401 KAR 52:020, Permits, Section 21, the permittee shall annually certify compliance with the terms and conditions contained in this permit, by completing and returning a Compliance Certification Form (DEP 7007CC) (or an alternative approved by the regional office) to the Regional Office listed on the front of this permit and the U.S. EPA in accordance with the following requirements:
   a. Identification of the term or condition;
   b. Compliance status of each term or condition of the permit;
   c. Whether compliance was continuous or intermittent;
   d. The method used for determining the compliance status for the source, currently and over the reporting period.
   e. For an emissions unit that was still under construction or which has not commenced operation at the end of the 12-month period covered by the annual compliance certification, the permittee shall indicate that the unit is under construction and that compliance with any applicable requirements will be demonstrated within the timeframes specified in the permit.

SECTION F - MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS (CONTINUED)

f. The certification shall be postmarked by January 30th of each year. Annual compliance certifications should be mailed to the following addresses:

Division for Air Quality
Paducah Regional Office
4500 Clarks River Road
Paducah, KY 42003-0823

U.S. EPA Region IV
Air Enforcement Branch
Atlanta Federal Center
61 Forsyth St.
Atlanta, GA 30303-8960

Division for Air Quality
Central Files
803 Schenkel Lane
Frankfort, KY 40601

10. In accordance with 401 KAR 52:020, Section 22, the permittee shall provide the Division with all information necessary to determine its subject emissions within thirty (30) days of the date the KYEIS emission survey is mailed to the permittee.

11 Pursuant to Section VII (3) of the policy manual of the Division for Air Quality as referenced in 401 KAR 50:016, Section 1(1), results of performance test(s) required by the permit shall be submitted to the Division by the source or its representative within forty-five days after the completion of the fieldwork

SECTION G - GENERAL PROVISIONS

(a) General Compliance Requirements

1. The permittee shall comply with all conditions of this permit. Noncompliance shall be a violation of 401 KAR 52:020 and of the Clean Air Act and is grounds for enforcement action including termination, revocation and reissuance, revision or denial of a permit [Section 1a, 3 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020 Section 26].

2. The filing of a request by the permittee for any permit revision, revocation, reissuance, or termination, or of a notification of a planned change or anticipated noncompliance, shall not stay any permit condition [Section 1a, 6 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

3. This permit may be revised, revoked, reopened and reissued, or terminated for cause in accordance with 401 KAR 52:020, Section 19. The permit will be reopened for cause and revised accordingly under the following circumstances:
   a. If additional requirements become applicable to the source and the remaining permit term is three (3) years or longer. In this case, the reopening shall be completed no later than eighteen (18) months after promulgation of the applicable requirement. A reopening shall not be required if compliance with the applicable requirement is not required until after the date on which the permit is due to expire, unless this permit or any of its terms and conditions have been extended pursuant to 401 KAR 52:020, Section 12;
   b. The Cabinet or the U. S. EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements;
   c. The Cabinet or the U. S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

   Proceedings to reopen and reissue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists. Reopenings shall be made as expeditiously as practicable. Reopenings shall not be initiated before a notice of intent to reopen is provided to the source by the division, at least thirty (30) days in advance of the date the permit is to be reopened, except that the division may provide a shorter time period in the case of an emergency.

4. The permittee shall furnish information upon requested by the cabinet to determine if cause exists for modifying, revoking and reissuing, or terminating the permit; or compliance with the permit [Section 1a, 7,8 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

5. The permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such facts or corrected information to the permitting authority [401 KAR 52:020, Section 7(1)].

SECTION G - GENERAL PROVISIONS (CONTINUED)

6. Any condition or portion of this permit which becomes suspended or is ruled invalid as a result of any legal or other action shall not invalidate any other portion or condition of this permit [Section 1a, 14 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

7. The permittee shall not use as a defense in an enforcement action the contention that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance [Section 1a, 4 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

8. Except for requirements identified in this permit as state-origin requirements, all terms and conditions shall be enforceable by the United States Environmental Protection Agency and citizens of the United States [Section 1a, 15 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

9. This permit shall be subject to suspension if the permittee fails to pay all emissions fees within 90 days after the date of notice as specified in 401 KAR 50:038, Section 3(6) [Section 1a, 10 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

10. Nothing in this permit shall alter or affect the liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance [401 KAR 52:020, Section 11(3)(b)].

11. This permit does not convey property rights or exclusive privileges [Section 1a, 9 of the *Cabinet Provisions and Procedures for Issuing Title V Permits* incorporated by reference in 401 KAR 52:020, Section 26].

12. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits, licenses, or approvals required by the Kentucky Cabinet for Natural Resources and Environmental Protection or any other federal, state, or local agency.

13. Nothing in this permit shall alter or affect the authority of U.S. EPA to obtain information pursuant to Federal Statute 42 USC 7414, Inspections, monitoring, and entry [401 KAR 52:020, Section 11(3)(d)].

14. Nothing in this permit shall alter or affect the authority of U.S. EPA to impose emergency orders pursuant to Federal Statute 42 USC 7603, Emergency orders [401 KAR 52:020, Section 11(3)(a)].

15. This permit consolidates the authority of any previously issued PSD, NSR, or Synthetic Minor source preconstruction permit terms and conditions for various emission units and incorporates all requirements of those existing permits into one single permit for this source.

SECTION G - GENERAL PROVISIONS (CONTINUED)

16. Pursuant to 401 KAR 52:020, Section 11, a permit shield shall not protect the owner or operator from enforcement actions for violating an applicable requirement prior to or at the time of issuance. Compliance with the conditions of a permit shall be considered compliance with:
    (a) Applicable requirements that are included and specifically identified in the permit and
    (b) Non-applicable requirements expressly identified in this permit.

(b) Permit Expiration and Reapplication Requirements

1. This permit shall remain in effect for a fixed term of five (5) years following the original date of issue. Permit expiration shall terminate the source's right to operate unless a timely and complete renewal application has been submitted to the division at least six months prior to the expiration date of the permit. Upon a timely and complete submittal, the authorization to operate within the terms and conditions of this permit, including any permit shield, shall remain in effect beyond the expiration date, until the renewal permit is issued or denied by the division [401 KAR 52:020, Section 12].

2. The authority to operate granted shall cease to apply if the source fails to submit additional information requested by the division after the completeness determination has been made on any application, by whatever deadline the division sets [401 KAR 52:030 Section 8(2)].

(c) Permit Revisions

1. A minor permit revision procedure may be used for permit revisions involving the use of economic incentive, marketable permit, emission trading, and other similar approaches, to the extent that these minor permit revision procedures are explicitly provided for in the SIP or in applicable requirements and meet the relevant requirements of 401 KAR 52:020, Section 14(2).

2. This permit is not transferable by the permittee. Future owners and operators shall obtain a new permit from the Division for Air Quality. The new permit may be processed as an administrative amendment if no other change in this permit is necessary, and provided that a written agreement containing a specific date for transfer of permit responsibility coverage and liability between the current and new permittee has been submitted to the permitting authority within ten (10) days following the transfer.

SECTION G - GENERAL PROVISIONS (CONTINUED)

(d) Construction, Start-Up, and Initial Compliance Demonstration Requirements

Pursuant to a duly submitted application the Kentucky Division for Air Quality hereby authorizes the construction of the equipment described herein, in accordance with the terms and conditions of this permit. These units collectively are henceforth referred to as *Phase II Expansion*:

Emission Point	Description	
EP 03	Eight (8) PVC Storage Silos	
EP 09	Two (2) Vinyl Chloride Thermal Oxidizers -	
	Six (6) PVC Polymerization Reactors	Six (6) Condensers
	Three (3) Blowdown Tanks	Three (3) Column Feed Tanks
	Three (3) PVC Stripping Columns	One (1) Recovery Condenser
	Four (4) Blowdown Recovery Condensers	Five (5) Recovery Compressors
	One (1) Recovered VCM Tank	Two (2) Gas Boosters
	One (1) Blowdown Recovery Splitter Tank	One (1) Wastewater Column
EP 10	Wastewater Treatment System	
EP 20	Pipeline Equipment associated with EP 03, 09, 34, 35, 44, 45, 52, 53, 54	
EP 34	Fluidized Bed Dryer	
EP 35	Fluidized Bed Dryer	
EP 36	Fluidized Bed Dryer	
EP 52	Boiler #3	
EP 44	Four (4) Initiator Make-up Tank (Insignificant Activity)	
EP 45	Four (4) Initiator Charge Tank (Insignificant Activity)	
EP 53	One (1) Mineral Oil Tank (Insignificant Activity)	
EP 54	One (1) Propylene Glycol Tank (Insignificant Activity)	

1. Construction of process and/or air pollution control equipment authorized by this permit shall be conducted and completed only in compliance with the conditions of this permit.

2. Within thirty (30) days following commencement of construction, and within fifteen (15) days following start-up, and attainment of the maximum production rate specified in the permit application, or within fifteen (15) days following the issuance date of this permit, whichever is later, the permittee shall furnish to the Division for Air Quality's Paducah Regional Office in writing, with a copy to the division's Frankfort Central Office, notification of the following:
   a. The date when construction commenced.
   b. The date of start-up of the affected facilities listed in this permit.
   c. The date when the maximum production rate specified in the permit application was achieved.

3. Pursuant to 401 KAR 52:020, Section 3(2), unless construction is commenced within eighteen (18) months after the permit is issued, or begins but is discontinued for a period of eighteen (18) months or is not completed within a reasonable timeframe then the construction and operating authority granted by this permit for those affected facilities for which construction was not completed shall immediately become invalid. Upon written request, the Cabinet may extend these time periods if the source shows good cause.

4. For those affected facilities for which construction is authorized by this permit, a source shall be allowed to construct with the proposed permit. Operational or final permit approval is not granted by this permit until compliance with the applicable standards specified herein has been demonstrated pursuant to 401 KAR 50:055. If compliance is not demonstrated within the prescribed timeframe provided in 401 KAR 50:055, the source shall operate thereafter only for the purpose of demonstrating compliance, unless otherwise authorized by Section I of this permit or order of the Cabinet.

5. This permit shall allow time for the initial start-up, operation, and compliance demonstration of the affected facilities listed herein. However, within sixty (60) days after achieving the maximum production rate at which the affected facilities will be operated but not later than 180 days after initial start-up of such facilities, the permittee shall conduct the following performance demonstrations/tests on the affected facilities in accordance with Regulation 401 KAR 50:055, General compliance requirements:

   a. For **EP# 03** - Performance testing for visible emissions on any one of the eight (8) new silos. The opacity limitations specified herein shall be measured by Reference Methods 9. Compliance with the opacity limit shall be deemed as compliance with the particulate mass emission standard as well.

   b. For **EP# 09** - Performance testing for hydrogen chloride on any one of the two (2) thermal oxidizers. The hydrogen chloride emissions shall be measured by Reference Method 26.

   c. For **EP# 10** - Demonstration that monthly sampling and analysis of the each wastewater stream to determine the concentration of vinyl chloride (as measured by Reference Method 107) has been initiated.

   d. For **EP# 34-36** - Performance testing for particulate matter on any one of the three fluid bed dryers. The particulate and opacity limitations shall be measured by Reference Methods 5 and 9 respectively. If the EP# 34-36 dryers are identical and operate under similar parametric conditions as the EP# 33 dryer, the division may allow the performance test for EP# 33 to be used for demonstrating compliance with the particulate mass emission limit.

   e. For **EP# 52** - Performance testing for particulate matter emissions from natural gas combustion. The particulate and opacity limitations shall be measured by Reference Methods 5, 6 and 9 respectively.

   f. For **EP# 44-51, 53, 54** - Demonstration that these tanks qualify as insignificant activities based on records of tank dimensions, tank volume and emissions calculations.

   These performance tests must also be conducted in accordance with General Conditions G(d)7 of this permit and the permittee must furnish to the Division for Air Quality's Frankfort Central Office a written report of the results of such performance test.

SECTION G - GENERAL PROVISIONS (CONTINUED):

6. Terms and conditions in this permit established pursuant to the construction authority of 401 KAR 51:017 or 401 KAR 51:052 shall not expire.

7. Pursuant to Section VII 2.(1) of the policy manual of the Division for Air Quality as referenced by Regulation 401 KAR 50:016, Section 1.(1), at least one month prior to the date of the required performance test, the permittee shall complete and return a Compliance Test Protocol (Form DEP 6027) to the division's Frankfort Central Office. Pursuant to 401 KAR 50:045, Section 5, the division shall be notified of the actual test date at least ten (10) days prior to the test.

8. Pursuant to Section VII 1.(2 and 3) of the policy manual of the Division for Air Quality as referenced by 401 KAR 50:016, Section 1.(1), if a demonstration of compliance, through performance testing was made at a production rate less than the maximum specified in the application form, then the permittee is only authorized to operate at a rate that is not greater than 110% of the rate demonstrated during performance testing. If and when the facility is capable of operation at the rate specified in the application, compliance must be demonstrated at the new production rate if required by the Division.

(e) Acid Rain Program Requirements

If an applicable requirement of Federal Statute 42 USC 7401 through 7671q (the Clean Air Act) is more stringent than an applicable requirement promulgated pursuant to Federal Statute 42 USC 7651 through 7651o (Title IV of the Act), both provisions shall apply, and both shall be state and federally enforceable.

(f) Emergency Provisions

1. Pursuant to 401 KAR 52:020 Section 24(1), an emergency shall constitute an affirmative defense to an action brought for the noncompliance with the technology-based emission limitations if the permittee demonstrates through properly signed contemporaneous operating logs or relevant evidence that:

   a. An emergency occurred and the permittee can identify the cause of the emergency;
   b. The permitted facility was at the time being properly operated;
   c. During an emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
   d. Pursuant to 401 KAR 52:020, 401 KAR 50:055, and KRS 224.01-400, the permittee notified the Division as promptly as possible and submitted written notice of the emergency to the Division when emission limitations were exceeded due to an emergency. The notice shall include a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
   e. This requirement does not relieve the source from other local, state or federal notification requirements.

2. Emergency conditions listed in General Condition (f)1 above are in addition to any emergency or upset provision(s) contained in an applicable requirement [401 KAR 52:020, Section 24(3)].

SECTION G - GENERAL PROVISIONS (CONTINUED):

3. In an enforcement proceeding, the permittee seeking to establish the occurrence of an emergency shall have the burden of proof [401 KAR 52:020, Section 24(2)].

(g) Risk Management Provisions

1. The permittee shall comply with all applicable requirements of 401 KAR Chapter 68, Chemical Accident Prevention, which incorporates by reference 40 CFR Part 68, Risk Management Plan provisions. If required, the permittee shall comply with the Risk Management Program and submit a Risk Management Plan to:

RMP Reporting Center
P.O. Box 3346
Merrifield, VA, 22116-3346

2. If requested, submit additional relevant information to the division or the U.S. EPA.

(h) Ozone depleting substances

1. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:
   a. Persons opening appliances for maintenance, service, repair, or disposal shall comply with the required practices contained in 40 CFR 82.156.
   b. Equipment used during the maintenance, service, repair, or disposal of appliances shall comply with the standards for recycling and recovery equipment contained in 40 CFR 82.158.
   c. Persons performing maintenance, service, repair, or disposal of appliances shall be certified by an approved technician certification program pursuant to 40 CFR 82.161.
   d. Persons disposing of small appliances, MVACs, and MVAC-like appliances (as defined at 40 CFR 82.152) shall comply with the recordkeeping requirements pursuant to 40 CFR 82.166
   e. Persons owning commercial or industrial process refrigeration equipment shall comply with the leak repair requirements pursuant to 40 CFR 82.156.
   f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant shall keep records of refrigerant purchased and added to such appliances pursuant to 40 CFR 82.166.

2. If the permittee performs service on motor (fleet) vehicle air conditioners containing ozone-depleting substances, the source shall comply with all applicable requirements as specified in 40 CFR 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

SECTION H - ALTERNATE OPERATING SCENARIOS

Not applicable.

SECTION I - COMPLIANCE SCHEDULE

1. To implement any new monitoring, recordkeeping, and reporting requirements included herein for emission points already in operation, the division hereby authorizes a 90-day compliance extension, beginning with the issuance of this permit except as provided in item 2. below.

2. To implement any new monitoring and recordkeeping requirements for each cyclone associated with a dryer, the division hereby authorizes a 180-day compliance extension, beginning with the issuance of this permit.

3. For emission units covered under the Phase II Expansion (Emission Points 03, 09, 10, 34, 35, 36, 44-51, 52, 53, and 54), the permittee shall implement all monitoring, reporting, and recordkeeping requirements included herein within 30 days of initial startup.